

REMARKS

1. Introduction

Applicant has amended claims 1, 6, and 18. Accordingly, claims 1-9, 17-21, 28-31 and 37-46 are presently pending in this application. Claims 12-16 and 32-36 were previously withdrawn from consideration. Applicant respectfully request further examination and reconsideration of the application in view of the foregoing amendments and the following remarks.

Applicant would like to thank the Examiner for taking the time to review the provided application. With respect the review of the specification, Applicant will continuously update the Office as to any typographical errors that are found in the body of the specification.

2. Claim Rejections based on 35 U.S.C. § 112, second paragraph

Claims 1-9, 17-21, 28-31, and 37-46 were rejected by the Office under 35 USC 112, second paragraph, as being indefinite. In light of the provided claim amendments, Applicant suggests that the rejection has been overcome.

As suggested by the Examiner, Claims 1, 6, and 18 have been amended to further clarify the provided claim scope. Support for the provided claim amendments can be found throughout the specification and in particular on pages 5, 4th paragraph; page 7; page 11, 3rd paragraph; and page 15. Accordingly, Applicant respectfully submits that these amendments and additions were made to clarify Applicant's invention and that no new matter has been added. Reconsideration and withdrawal of the rejection is hereby respectfully requested.

3. Claim Rejections under 35 U.S.C. § 102 and/or § 103

Claims 1-5, 17 and 28-29 stand rejected under 35 U.S.C. §102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nelson et al. (U.S. 2001/0019829).

Applicants traverses the rejection and respectfully requests reconsideration in light of the provided remarks.

The Nelson reference (hereinafter referred to as “Nelson”) discloses rapid mass spectrometric immunoassay methods for detecting and/or quantifying antibodies and antigens through affinity. In particular, Nelson discloses a two phase process wherein an antibody or antigen analyte is captured and isolated and subsequently analyzed through mass spectrometry. In particular, Nelson provides a method of identifying the actual presence of antibodies in sera, as described in paragraph 149. The affinity reagent is used to identify the actual antibodies that are provided within the sera. The method therefore focuses on the actual detection of the antibodies through the use of an affinity agent. Nelson does not provide a means for creating an experimental tool. Moreover, Nelson does not suggest the use of comparative mass spectrometry in order to identify various antibodies.

In contrast, the present invention provides a high throughput screening method of identifying and isolating protein affinity ligands that bind to individual proteins through the use of comparative mass spectrometry. In particular, the present invention provides a method of “inverse screening”, which allows for the screening and targeting of various proteins, either individually or in a mixture. The present invention further provides a benefit over traditional screening methods wherein the specific proteins are targeted in the present application even when provided in an unpure form. The present invention provides a method of creating an experimental tool wherein protein affinity ligands are identified and screened for through the use of comparative mass spectrometry based characterizations.

Applicant suggests that based on the above provided remarks the Office’s rejection has been overcome. Applicant requests reconsideration.

4. Claim Rejections under 35 U.S.C. § 103

Claims 1-9, 17-21, 28-31, and 37-46 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Nelson in view of Xu (2003/0157089) and Zsebo et al. (6,759,215). Applicant traverses the rejection and requests reconsideration in light of the provided remarks.

Applicant suggests that in view of the above provided remarks related to Nelson, it would not have been obvious to combine the suggested references to obtain the present invention. The Office acknowledges that the Nelson reference does not disclose a sequence tag data.

The Xu et al. reference (hereinafter referred to as "Xu") discloses compositions and methods for the therapy and diagnosis of cancer. Applicant suggests that Xu does not suggest an inverse screening method as provided by the present invention, nor would there be any motivation to combine Xu with Nelson to obtain the screening method as disclosed by the present invention. Xu merely discloses a flow-through or strip test assay used for the collection of various peptides or antibodies, such collection devices are well known in the art. Xu does not provide an inverse screening method nor does it suggest the detection of various antibodies for the creation of a comparative library through the use of assays. Consequently, the Xu reference does not create an experimental tool as provided by the present invention. Moreover, Xu makes reference to the ability to obtain sequence tag data but in no way suggests that such data be collected in combination with the use of an inverse screening method and identification of protein affinity ligands.

The Office further suggests that Xu provides reference to the use of ficoll. Accordingly, ficoll in the Xu reference is used during centrifugation. In contrast to Xu, the present invention does not involve the use of centrifugation and instead suggests that ficoll is a preferred blocking reagent based on obtaining quality peptide mass fingerprinting data. As suggested on page 16 of the specification, the Applicant investigated a number of blocking agents in relation to the present invention. Through experimentation it was determined that the use of ficoll was a preferred blocking agent and resulted in enhancing the quality of results for the peptide mass fingerprinting data.

Lastly, the Zsebo reference (hereinafter referred to as "Zsebo") discloses a method of preparing a human stem cell factor polypeptide. It is suggested by the Office that Zsebo refers to the use of formic acid as an eluting agent and therefore would have provided motivation to combine the above-mentioned references. Applicant suggests that the use of formic acid as an eluting agent would not provide the motivation to combine the above-mentioned references. In light of the above provided remarks, Applicant suggests that the rejection has been overcome.

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Consequently, Applicant suggests that no motivation can be found in any of the above-mentioned references to combine the references thereby arriving at the presently claimed invention. Applicant respectfully requests withdrawal of the claim rejections.

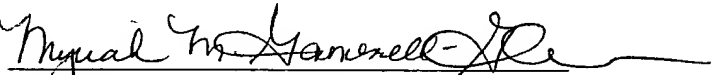
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CONCLUSION AND REQUEST FOR RECONSIDERATION

Reconsideration and withdrawal of all claim rejections are respectfully requested. Applicants believe that the present application is in condition for allowance.

Should the Examiner have any questions or would like to discuss any matters in connection with the present application, the Examiner is invited to contact the undersigned at (248)203-0766 or mgambrellglenn@dykema.com.

Respectfully submitted,



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